

On the paradoxical aspects of new quantum experiments

Vaidman, Lev (1994) On the paradoxical aspects of new quantum experiments.

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Abstract

Two recently proposed quantum experiments are analyzed. The first allows to find an object without "touching" it. The second allows to teleport quantum states, transmitting a very small amount of information. It is shown that in the standard approach these experiments are in conflict with the intuitive notions of causality and locality. It is argued that the situation is less paradoxical in the framework of the many-worlds interpretation of quantum theory.

Keywords: quantum nonlocality, interaction-free measurements, teleportation

Subjects: [General Issues: Causation](#)
[Specific Sciences: Physics: Quantum Mechanics](#)

ID Code: 564

Deposited By: [Vaidman, Lev](#)

Deposited On: 11 February 2002